

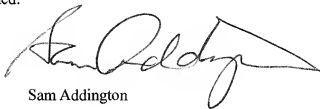
Certification of Translation

I, Sam Addington, certify that I have carefully read the English translation of the attached 21 page document labeled HGM-143-A "Doodle Copy" and that to the best of my knowledge, it is an accurate translation of Japanese Patent 2003-098518.

I am fully qualified to make this certification and am experienced at the translation of Japanese patents.

(Please see the attached for specific comments on the translation)

Signed:

A handwritten signature in black ink, appearing to read 'Sam Addington', with a long horizontal stroke extending to the right.

Sam Addington

SUZUKI MYERS & ASSOCIATES, LTD.

[Attachment to the Certification of the English translation of HGM143-A]

Stylistically, there may be several areas where there might have been a better choice of English words and I paid special attention to those areas.

For example is the frequent use of the word "disposed" (in Claim 1 for example). While not a mistake, the word "placed" would have served equally well in English.

In Paragraph [0007] I would have chosen to use a definite article (the) instead of the indefinite (a, an), but Japanese has no articles and this remains a judgment call. The meaning is not significantly affected. Nor is it affected by the choice of "object" over "objective."

I was confused by the parenthetical statement in Paragraph 21, but when I referred to the Japanese original, I realized that "plurality" meant "a plural number of objects" and that the three dots were a symbol indicating a plural number. (There is no singular or plural in Japanese, leading to lack of clarity in some instances.)

I found one mistake, though minor, in Paragraph 22. The word "rider" is not followed by a number in the Japanese, but it is followed by the number 47 in the English. The word "attitude" is used in the obscure sense of "posture" but is not incorrect.

I have rewritten Paragraph [0032] starting with the second indentation, making an effort to strictly follow the Japanese sentence structure. I did so because I was confused by the translator's use of "resides in that."

"Because the air discharge structure of the motorcycle in Claim 1 is provided with a side cover, covering the side in a location near the air discharge port between the fuel tank and engine and contiguous to the rear wheel suspension, discharge air can be drawn out from the discharge port coming from the radiator by the ram air (wind created by driving) flowing along the side surface of the side cover. As a result, the amount of discharge air flowing from the inside of the radiator to the outside can be increased and an excessive rise of temperature inside the radiator can be prevented."

"Resides in that" also appears in Paragraph [0034]. My translation: Because the air discharge structure of the motor cycle in Claim 2 covers the engine accessories with a side cover, the accessories, such as the engine control unit or ignition unit for example, are not exposed on the exterior, further improving the appearance.

Paragraph [0035] would similarly benefit from a rewrite, but the original meaning of the Japanese is accurately conveyed.

[Name of Document] Specification

[Title of the Invention] Air Discharge Structure For
Motorcycles

[What Is Claimed Is]

[Claim 1] An air discharge structure for a motorcycle having a front wheel suspended on a front portion of a vehicle frame, a rear wheel suspended by a rear wheel suspension mounted on a rear portion of the vehicle frame, a fuel tank mounted on an upper portion of the vehicle frame, an engine mounted on a lower portion of the vehicle frame, a radiator disposed forwardly of the engine, and a radiator cover covering the radiator and having an air discharge port for discharging air from the radiator rearwardly of a vehicle body, characterized in that

a side cover is disposed in a position facing said air discharge port and covers a side area between said fuel tank and the engine, said side cover being contiguous to said rear wheel suspension.

[Claim 2] An air discharge structure for a motorcycle according to claim 1, characterized in that said side cover covers accessories of said engine.

[Claim 3] An air discharge structure for a motorcycle according to claim 1 or 2, characterized in that said

side cover projects laterally of the vehicle body from a side surface of said fuel tank as viewed in plan.

[Detailed Description of the Invention]

[0001]

[Technical Field to which the Invention Pertains]

The present invention relates to an air discharge structure for a motorcycle.

[0002]

[Prior Art]

There has been known an air discharge structure for a motorcycle which has a radiator cover (see, for example, patent document 1).

[0003]

[Patent document 1]

Japanese Patent Laid-open No. 2000-118464 (pages 2 to 4, FIG. 1).

[0004]

FIG. 1 of patent document 1 will be described below with reference to FIG. 8 shown below. The reference numerals are assigned anew.

FIG. 8 is a side elevational view showing a conventional air discharge structure for a motorcycle. A side area of a radiator 101 is covered with a radiator

cover 102, which mixes discharged air from the radiator 101 and fresh air introduced from an inlet port defined in an upper front portion of the radiator cover 102, and emits the mixed air rearwardly of the radiator cover 102. The reference numeral 104 represents a horizontally opposed engine, and 105 carburetors for supplying a fuel to the horizontally opposed engine 104.

[0005]

[Problems to be Solved by the Invention]

The radiator cover 102 is effective to utilize hot air from the radiator 101 and improve the appearance by covering the side area of the radiator 101. However, if there is not much ram air available, then since a high temperature rise occurs in the radiator cover 101, it is necessary to promote the discharging of air from within the radiator cover 102.

[0006]

As the radiator cover 102 is shaped to cover the side area of the radiator 101 and only part of the carburetors 105 behind the radiator 101, the radiator cover 102 leaves the rear carburetors 105 exposed and is not effective enough to improve the appearance. Particularly, on American-type motorcycles (called "custom motorcycles"), the radiator cover 102 does not

match surrounding parts in appearance, and is required to be better blended and harmonized with the engine, the vehicle frame, and the fuel tank around the radiator cover 102.

[0007]

It is an object of the present invention to improve an air discharge structure for a motorcycle for promoting the discharging of air from within a radiator and improving the appearance thereof.

[0008]

[Means for Solving the Problems]

To achieve the above object, there is provided in accordance with claim 1 an air discharge structure for a motorcycle having a front wheel suspended on a front portion of a vehicle frame, a rear wheel suspended by a rear wheel suspension mounted on a rear portion of the vehicle frame, a fuel tank mounted on an upper portion of the vehicle frame, an engine mounted on a lower portion of the vehicle frame, a radiator disposed forwardly of the engine, and a radiator cover covering the radiator and having an air discharge port for discharging air from the radiator rearwardly of a vehicle body, characterized in that a side cover is disposed in a position facing the air discharge port and covers a side area between the

fuel tank and the engine, the side cover being contiguous to the rear wheel suspension.

[0009]

As the side cover is disposed so as to face the air discharge port, air discharged from the radiator can be drawn out of the air discharge port by ram air that flows along a side surface of the side cover. Because the side cover is disposed so as to be contiguous to the rear wheel suspension, the side cover and the rear wheel suspension are highly blended with each other for an improved appearance.

[0010]

According to claim 2, the air discharge structure is characterized in that the side cover covers accessories of the engine.

Since the side cover covers accessories of the engine, accessories such as an engine control unit, an ignition unit, etc. are not exposed out, resulting in a further improved appearance.

[0011]

According to claim 3, the air discharge structure is characterized in that the side cover projects laterally of the vehicle body from a side surface of the fuel tank as viewed in plan.

Because the side cover projects laterally of the vehicle from a side surface of the fuel, a leg of the rider of the motorcycle can be applied to the side cover. If the leg is shifted inwardly, then the leg can also be applied to the fuel tank in addition to the side cover, and the force of the leg can be distributed and borne by the fuel tank and the side cover, and the rider can hold the vehicle frame differently depending on the riding posture of the rider.

[0012]

[Mode for Carrying Out the Invention]

Embodiments of the present invention will be described below with reference to the drawings. The drawings should be viewed in the direction in which the reference numerals look normal.

FIG. 1 is a perspective view of a motorcycle incorporating an air discharge structure according to the present invention. A motorcycle 10 is an American-type motorcycle suitable for long touring, having a front fork 11 which is inclined greatly to position a handle 12 mounted on an upper portion of the front fork 11, rearwardly with respect to a vehicle body, and a seat 13 which is of a low height and steps 14 (only the step 14 on the viewer's side is shown) positioned more forwardly

with respect to the vehicle body, so that the rider of the motorcycle can take a comfortable riding posture.

[0013]

FIG. 2 is a side elevational view of the motorcycle according to the present invention. The motorcycle 10 has a main frame 17 extending obliquely rearwardly downwardly from a head pipe 16, a fuel tank 21 mounted on an upper portion of the main frame 17, a horizontally opposed engine 22 mounted on a lower portion of the main frame 17, a radiator 23 mounted on a lower front portion of the main frame 17 forwardly of the engine 22, a radiator cover 24 covering opposite side areas and an upper area of the radiator 23, and side covers 27 (only the side cover 27 on the viewer's side is shown) disposed in facing relation to an air discharge port 26 defined in the radiator cover 24 and covering opposite side areas between the fuel tank 21 and the engine 22 rearwardly of the radiator cover 24.

[0014]

The reference numeral 31 represents a front wheel connected to the front fork 11 by a link mechanism 32, 33 a front fender covering an upper portion of the front wheel 31, 34 a head lamp, 35, 36 an exhaust pipe and a muffler which are connected to a lower portion of the

engine 22, 38 a rear wheel vertically movably mounted by a swing arm (not shown) on a rear wheel suspension 41 mounted on a lower portion of the main frame 17, 42 a rear fender covering an upper portion of the rear wheel 38, and 43 an engine guard disposed forwardly of the engine 22.

[0015]

The side covers 27 cover engine accessories such as an engine control unit, an ignition unit, etc., and a carburetor which are disposed above the engine 22 and below the fuel tank 21. The side covers 27 are disposed contiguously to the main frame 17 so as to be blended therewith for an improved appearance.

The head pipe 16, the main frame 17, and the rear wheel suspension 41 serve as members of a vehicle frame 45.

[0016]

FIG. 3 is a plan view of the motorcycle according to the present invention, the view showing the motorcycle schematically. Air flows in patterns that are symmetrical on left and right sides of the vehicle body, and only the air flow on one side is illustrated for convenience.

The motorcycle 10 has the side covers 27 disposed below opposite sides of the fuel tank 21, and the

radiator cover 24 is disposed forwardly of the side covers 27. The reference numeral 46 denotes an air inlet port of the radiator cover 24, and 47 the rider of the motorcycle 10.

[0017]

While the motorcycle 10 is running, part of the ram air enters the radiator cover 24 from a side of the front wheel 31, passes through the radiator 23, and flows out from the air discharge port 26 of the radiator cover 24.

[0018]

The ram air also passes from the side of the front wheel 31 alongside of the radiator cover 24, flows along the surface of the side cover 27, passes through a side of a leg 48 of the rider 47, and flows rearwardly of the vehicle body.

[0019]

At this time, the discharged air flowing out from the air discharger port 26 is drawn laterally from the radiator cover 24 by a pressure drop due to the flow of the ram air alongside of the side cover 27. Therefore, the discharged air can flow out in an increased amount from the air discharger port 26.

Therefore, an excessive temperature rise in the radiator cover 24 is prevented from being developed.

[0020]

FIG. 4 is a first perspective view showing the side cover and its surrounding parts according to the present invention. The arrow (front) in FIG. 4 represents a forward direction of the vehicle body (this holds true also for other figures).

The side cover 27 has an upper surface 51 which is curved so as to be convex substantially upwardly, a side surface 52 which is curved so as to be concave inwardly, and a front surface 53. The discharged air flowing from the air discharge port 26 (see FIG. 2) of the radiator cover 24 impinges upon the front surface 51 and changes its direction laterally obliquely rearwardly, as indicated by the arrow (1), and is drawn out by ram air which flows laterally of the radiator cover 24 along the side surface 52 of the side cover 27 as indicated by the arrow (2).

[0021]

FIG. 5 is a second perspective view showing the side cover and its surrounding parts according to the present invention. The radiator cover 24 has flow regulating plates 55 ... (... represents a plurality. This holds true also for other instances).

While the motorcycle is running, air flows

indicated by the arrows (3) through (6) are produced around the radiator cover 24 and the side cover 27.

Specifically, the arrow (3) represents ram air flowing from above the radiator cover 24 along the upper surface 51 of the side cover 27. The arrow (4) represents discharged air flowing from the air discharge port 26 along the upper surface 51. The arrow (5) represents discharged air flowing from the air discharge port 26 along the front surface 53. The arrow (6) represents ram air flowing laterally of the radiator cover 24 along the side surface 52 of the side cover 27.

[0022]

FIG. 6 is a cross-sectional view of the fuel tank and the side covers according to the present invention. The side covers 27, specifically, crest portions 27a at the boundaries between the upper surfaces 51 and the side surfaces 52 of the side covers 27, project a distance P laterally of the vehicle body from crest portions 56 of side surfaces of the fuel tank 21, and the rider 47 has its legs whose inner sides are applied to the side covers 27, respectively. Therefore, the side covers 27 can be held by the respective legs 48. If the legs 48 are forcibly shifted inwardly, then the sides of the fuel tank 21 as well as the side covers 27 can be held by the

legs 48. The force with which the sides of the fuel tank 21 as well as the side covers 27 are held can be distributed to the fuel tank 21 and the side covers 27. Therefore, with the motorcycle 10 according to the present invention, only the side covers 27 may be held by the legs 48 or both the side covers 27 and the fuel tank 21 may be held by the legs 48, depending on the riding attitude of the rider 47.

[0023]

The reference numeral 57 represents an engine control unit as an accessory for controlling the supply of the fuel to the engine, ignition timing, etc., and 58 an ignition unit as an accessory for enabling spark plugs to produce sparks. The engine control unit 57 and the ignition unit 58 are covered by the side covers 27. Since the engine control unit 57 and the ignition unit 58 are covered by the side covers 27, they are not exposed out, so that the appearance of the motorcycle can be improved.

[0024]

FIG. 7 is a cross-sectional view of an air discharge structure according to another embodiment of the present invention, the view showing a body front cover 60 which includes an integral combination of a radiator cover and a side cover.

The body front cover 60 includes a radiator cover member 62 covering side areas and an upper area of the radiator 23 and having an air discharge port 61, and a side cover member 63 integrally formed with a rear portion of the radiator cover member 62. The radiator cover member 62 and the side cover member 63 have the same functions as the radiator cover 24 (see FIG. 2) and the side covers 27 (see FIG. 2). The reference numeral 65 represents an air inlet port of the body front cover 60, and 66 a rear opening of the body front cover 60.

[0025]

The arrows in FIG. 7 show air flows from the body front cover 60 and the air discharge port 61. The broken-line arrows show air that is not discharged from the air discharge port 61 of the body front cover 60, but is directed in the side cover member 63 toward the rear portion of the vehicle body, the air flowing out from the rear opening.

[0026]

As described above with reference to FIGS. 2 and 3, according to a first feature of the present invention, the motorcycle 10 has the front wheel 31 suspended on a front portion of the vehicle frame 45, the rear wheel 38 suspended by the rear wheel suspension 41 mounted on a

rear portion of the vehicle frame 45, the fuel tank 21 mounted on an upper portion of the vehicle frame 45, the engine 22 mounted on a lower portion of the vehicle frame 45, the radiator 23 disposed forwardly of the engine 22, and the radiator cover 24 covering the radiator 23 and having the air discharge port 26 for discharging air from the radiator 23 rearwardly of the vehicle frame, characterized in that the side covers 27 are disposed in a position facing the air discharge port 26, i.e., rearwardly of the air discharge port 26, and covers both side areas between the fuel tank 21 and the engine 22, the side covers 27 being contiguous to the main frame 17 and the rear wheel suspension 41.

[0027]

As the side covers 27 are disposed so as to face the air discharge port 26, air discharged from the radiator 23 can be drawn out of the air discharge port 26 by ram air that flows along a side surface of the side covers 27. Therefore, the discharged air can flow out from within the radiator cover 24 in an increased amount, and an excessive temperature rise in the radiator cover 24 is prevented from being developed.

[0028]

Because the side covers 27 are disposed so as to be

contiguous to the rear wheel suspension 41, the side covers 27 and the rear wheel suspension 41 are highly blended with each other for thereby improving the appearance of the American-type motorcycle 10 in particular.

[0029]

According to a second feature of the present invention, the air discharge structure is characterized in that the side covers 27 cover accessories of the engine 22 in FIGS. 2 and 6.

Since the side covers 27 cover accessories of the engine 22, e.g., the engine control unit 57 and the ignition unit 58, the engine control unit 57 and the ignition unit 58 are not exposed out, resulting in a further improved appearance.

[0030]

According to a third feature of the present invention, the air discharge structure is characterized in that the crest portions 27a of the side covers 27 project laterally of the vehicle body from the crest portions 56 of side surfaces of the fuel tank 21 as viewed in plan.

The crest portions 27a of the side covers 27 project laterally of the vehicle body from the crest

portions 56 of the side surfaces of the fuel tank 21. Therefore, the legs 48 of the rider 47 can be applied to the side covers 27, respectively. If the legs 48 are shifted inwardly, then the legs 48 can be applied to the fuel tank 21 as well as the side covers 27. The force of the legs 48 can be distributed to the fuel tank 21 and the side covers 27, and the vehicle body can be held by the legs differently depending on the riding attitude of the rider. Since the riding attitude has more freedom, the motorcycle 10 (see FIG. 2) can be handled with increased ease.

[0031]

The side covers according to the present invention may be contiguous to the radiator cover.

[0032]

[Effects of the invention]

With the above arrangement, the present invention offers the following advantages:

The air discharge structure for the motorcycle according to claim 1 resides in that the side cover is disposed in a position facing the air discharge port and covers a side area between the fuel tank and the engine, the side cover being contiguous to the rear wheel suspension. Therefore, air discharged from the radiator

can be drawn out of the air discharge port by ram air that flows along a side surface of the side cover. Therefore, the discharged air can flow out from within the radiator cover in an increased amount, and an excessive temperature rise in the radiator cover is prevented from being developed.

[0033]

Because the side cover is disposed so as to be contiguous to the rear wheel suspension, the side cover and the rear wheel suspension are highly blended with each other for thereby improving the appearance of an American-type motorcycle in particular.

[0034]

The air discharge structure for the motorcycle according to claim 2 resides in that the side cover covers accessories of the engine 22. The accessories, e.g., the engine control unit, the ignition unit, etc., are not exposed out, resulting in a further improved appearance.

[0035]

The air discharge structure for the motorcycle according to claim 3 resides in that the side cover projects laterally of the vehicle body from side surfaces of the fuel tank as viewed in plan. Therefore, a leg of

the rider of the motorcycle can be applied to the side cover. If the leg is shifted inwardly, then the leg can also be applied to the fuel tank in addition to the side cover, and the force of the leg can be distributed and borne by the fuel tank and the side cover, and the rider can hold the vehicle frame differently depending on the riding posture of the rider.

[Brief Description of the Drawings]

[FIG. 1]

FIG. 1 is a perspective view of a motorcycle incorporating an air discharge structure according to the present invention;

[FIG. 2]

FIG. 2 is a side elevational view of the motorcycle according to the present invention;

[FIG. 3]

FIG. 3 is a plan view of the motorcycle according to the present invention:

[FIG. 4]

FIG. 4 is a first perspective view showing a side cover and its surrounding parts according to the present invention;

[FIG. 5]

FIG. 5 is a second perspective view showing a side cover and its surrounding parts according to the present invention;

[FIG. 6]

FIG. 6 is a cross-sectional view of a fuel tank and side covers according to the present invention;

[FIG. 7]

FIG. 7 is a cross-sectional view of an air discharge structure according to another embodiment of the present invention; and

[FIG. 8]

FIG. 8 is a side elevational view showing a conventional air discharge structure for a motorcycle.

[Description of reference numerals]

10...motorcycle, 21...fuel tank, 22...engine, 23...radiator, 24...radiator cover, 26...air discharge port, 27...side cover, 31...front wheel, 38...rear wheel, 41...rear wheel suspension, 45...vehicle frame, 57, 58...accessories (engine control unit, ignition unit).

[Name of Document] Abstract of the Disclosure

[Abstract]

[Solving Means] A motorcycle 10 has a front wheel 31 suspended on a front portion of a vehicle frame 45, a rear wheel 38 suspended by a rear wheel suspension 41 mounted on a rear portion of the vehicle frame 45, a fuel tank 21 mounted on an upper portion of the vehicle frame 45, an engine 22 mounted on a lower portion of the vehicle frame 45, a radiator 23 disposed forwardly of the engine 22, and a radiator cover 24 covering the radiator 23 and having an air discharge port 26 for discharging air from the radiator 23 rearwardly of a vehicle body. In the motorcycle 10, side covers 27 are disposed in a position facing the air discharge port 26 and cover both side areas between the fuel tank 21 and the engine 22, the side covers 27 being contiguous to the rear wheel suspension 41.

[Effect] Air discharged from within the radiator cover can be drawn out by ram air that flows along side surfaces of the side covers, so that an excessive temperature rise in the radiator cover is prevented from being developed. Because the side covers are disposed so as to be contiguous to the rear wheel suspension, they are highly blended with each other for an improved

appearance.

[Selected Drawing]

FIG. 2